

DIE-FIRST MULTI-CHIP MODULES AND METHODS OF MANUFACTURE ABSTRACT OF THE DISCLOSURE

Methods of making a multi component module (130) utilize a reusable carrier substrate
5 (111) where the reusable carrier substrate (111) is light transmissive in a frequency range of an
adhesive (112) that is ablated by light of a certain frequency such as light from an excimer laser
(122). An electronic component (118), such as a chip, die, or passive or active component, is
adhered to the reusable carrier substrate (111) with the adhesive (112). An interconnect structure
(117) is fabricated on the electronic component (118) to form a multi component module (130).
10 The excimer laser (122) illuminates the reusable carrier substrate (111) with light in the
frequency range after fabricating the interconnect structure (117) to ablate the adhesive (112) to
remove the multi component module (130) from the reusable carrier substrate (111).